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# PYROBAR

PATENTED

## GYPSUM ROOF TILE For Railway Buildings



25-Stall Roundhouse, Haselton, O., Pittsburgh & Lake Erie R. R. (N. Y. Central Lines)  
Pyrobar Long Span Channel Type Roof Tile Used

**R**OOFs of Railway Buildings are continually exposed to sulphur dioxide fumes from locomotives. The fumes are carried in suspension with the steam which readily condenses upon the under side of any roof construction composed of materials having high heat conductivity. This condensation of vapor containing acid causes this acid to be carried into the construction by capillary attraction by means of the water vehicle, resulting in rapid disintegration and in corrosion of reinforcing and structural steel.

Condensation when formed between wood sheathing and the roof covering will also rot the wood, corrode the nails and disintegrate the roof covering.

Pyrobar Fireproof Gypsum Roof Tile form the ideal roof deck for railroad buildings. The low conductivity of Pyrobar decks, together with their insulating value, prevents condensation, so that neither the tile nor their reinforcing steel suffer damage from sulphur fumes. (See letters on page 3 giving test data on insulation and immunity of Pyrobar to the action of sulphur dioxide.)

Pyrobar Roof Tile can be rapidly erected, are low in cost, and, due to their superior insulation, save in fuel and in cost of heating plant.

## UNITED STATES GYPSUM COMPANY

*World's Largest Producers of Gypsum Products*

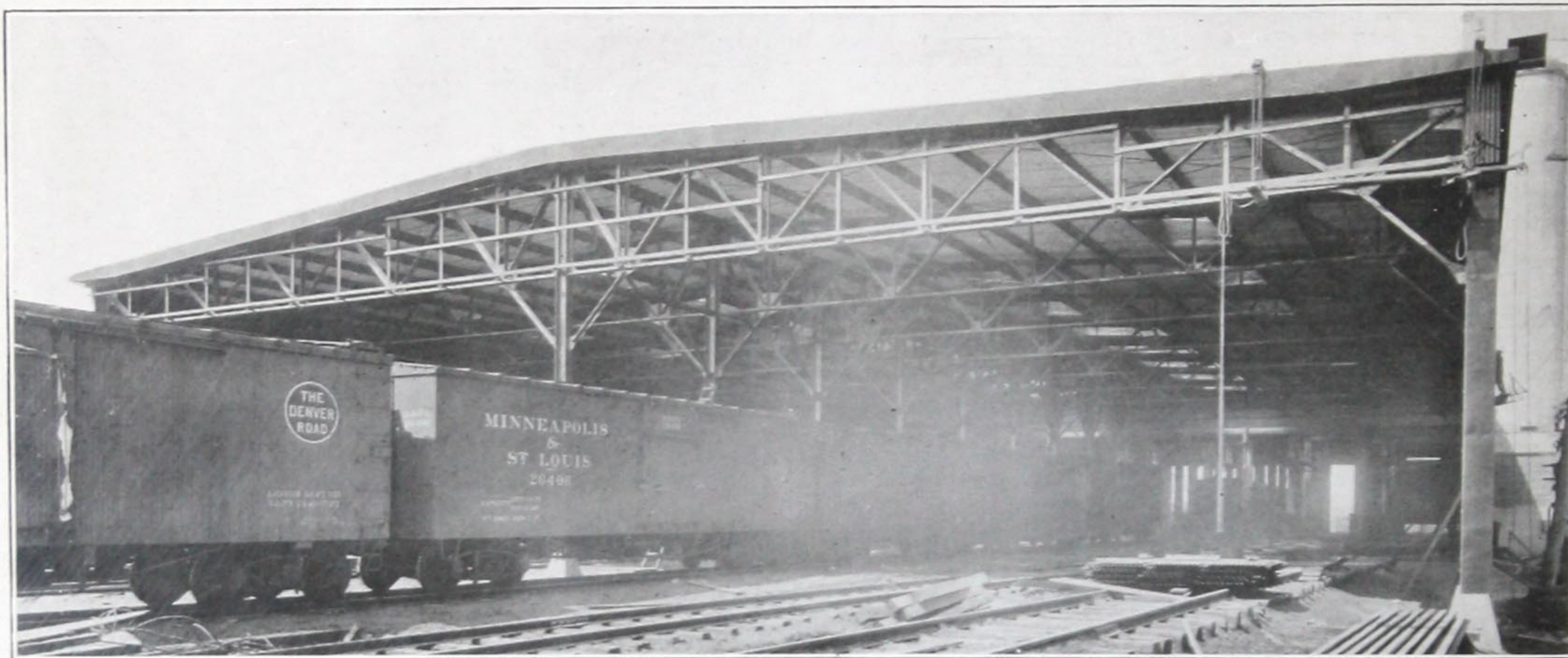
205 WEST MONROE STREET, CHICAGO, ILL.

NEW YORK   BUFFALO   BOSTON   PHILADELPHIA   WASHINGTON   CLEVELAND   DETROIT   PITTSBURGH  
MILWAUKEE   MINNEAPOLIS   KANSAS CITY   ST. LOUIS   CINCINNATI   DENVER   OMAHA   LOS ANGELES

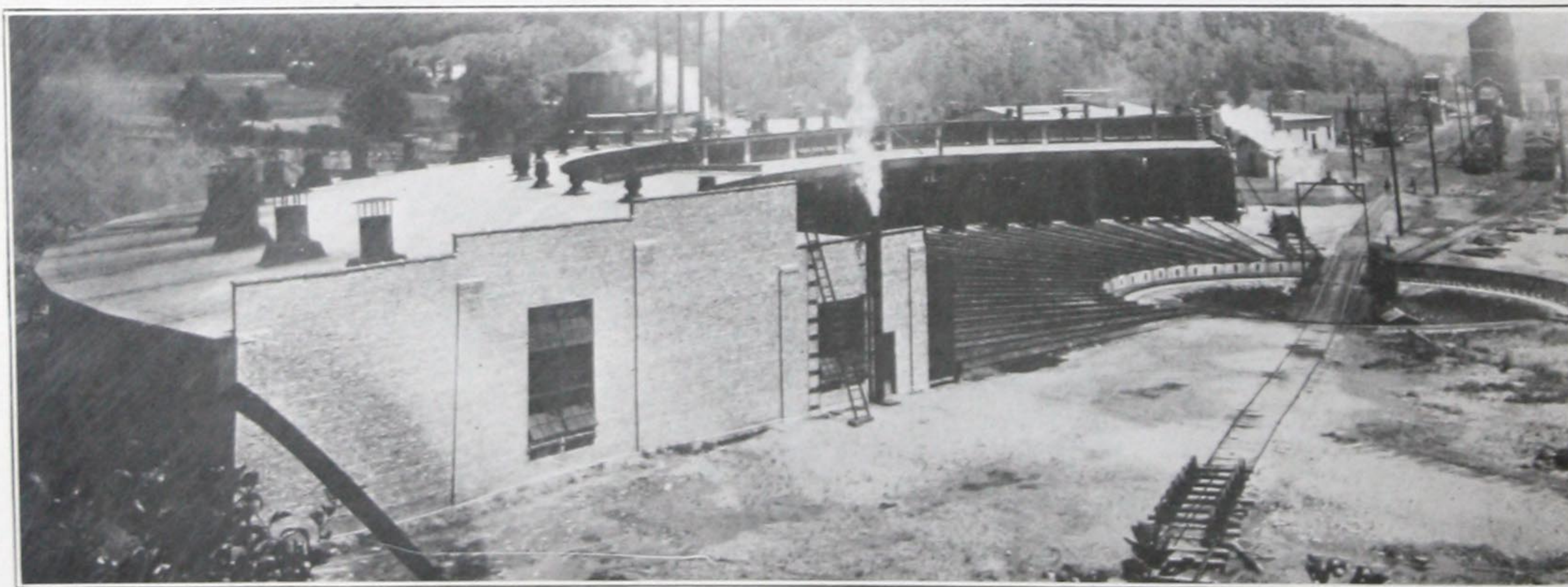




Roundhouse P. & L. E. R. R., Haselton, O. Long Span Channel Type Tile laid on Steel Purlins. Note Gypsum Fill and Roof ready for application of Roof Covering.



Storage Shed, Pennsylvania Ry. System. Girard Pt., Philadelphia, Pa. Pyrobar Long Span Channel Type Tile.



Chicago, Milwaukee and St. Paul R. R. Roundhouse, No. McGregor, Iowa. This roundhouse is of timber construction, using 3" x 12" wood purlins upon which 3" x 12" x 30" Solid Pyrobar Gypsum Roof Tile was laid.



# Lower Conductivity---Greater Insulation

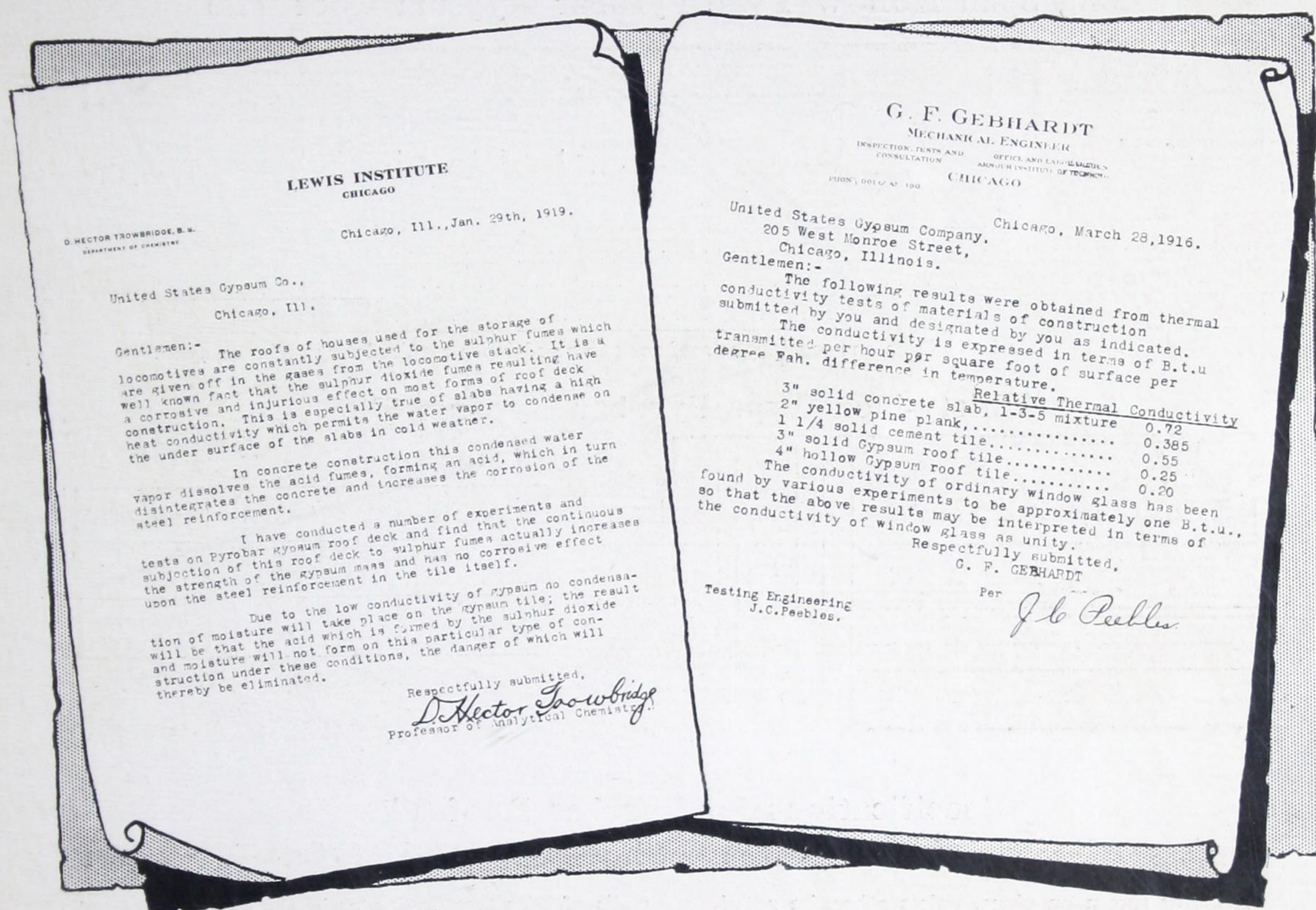
**G**YPSUM has a lower conductivity and hence greater insulation value than any other fireproof building material used for structural purposes.

This is due to the physical structure of gypsum, which is a mass of closely knit air-confining cells. The non-conductivity of PYROBAR makes a building cool in summer, and prevents the escape of heat through the roof in winter. Pyrobar Gypsum Long Span Roof Tile, compared with 3" thickness of stone concrete, will save 27 tons of coal per year, and will reduce the required amount of heating equipment by 920 sq. ft. of radiation (equal to 2130 lineal feet of 1 1/4" pipe) for each 10,000 sq. ft. of roof area.

It also makes possible a roof deck that minimizes condensation—no "sweating" or "dripping" to corrode the steel work.

The relative co-efficient of conductivity of Pyrobar Gypsum Roof Tile and other roof deck materials has been shown by tests made at the Armour Institute of Technology, Chicago; report is here reproduced.

Tests conducted by Prof. D. Hector Trowbridge at the Lewis Institute of Technology, Chicago, show that Gypsum on exposure to sulphur dioxide fumes as found in roundhouses is increased in strength and that the reinforcing steel is unaffected.



## A Pyrobar Gypsum Roof Tile for Every Roof Need

**P**YROBAR Gypsum Roof Tile are pre-cast and are made in four types: Long Span, either Channel or Hollow type, and 30" Span, either Solid or Hollow. The tile can be erected under any weather conditions as rapidly as the structure is ready to receive them. The composition roof covering can be applied as soon as the tile are in place.

Pyrobar Roof Tile can be made to suit any framing requirements and for purlin spacing up to 8 ft. centers. Their light weight makes possible the use of lighter purlins than are used with other fireproof decks.

The data sheet on last page shows details for the four types of Pyrobar. The Long Span tile, either Channel or Hollow type, are laid directly on the purlins—either steel, concrete or wood.

The Long Span Hollow Tile is designed for use where a uniformly flat ceiling surface and maximum degree of insulation is desired.

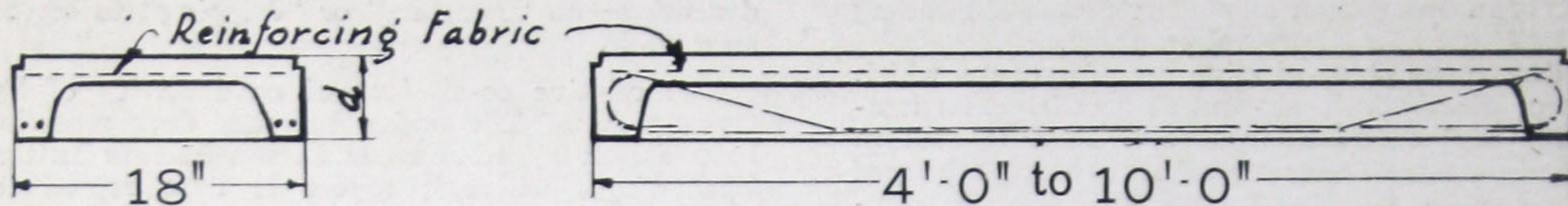
The 30" Type Tile is adaptable for use on wood purlins as well as on "T" irons.

Pyrobar Roof Decks are furnished erected in place, ready for the roof covering. Let us send you blue print details of concrete, steel and wood roundhouse construction, showing Pyrobar Roof Decks in place. Our Engineering Department will gladly furnish estimates and give you the benefit of our roof deck experience without obligations on your part.



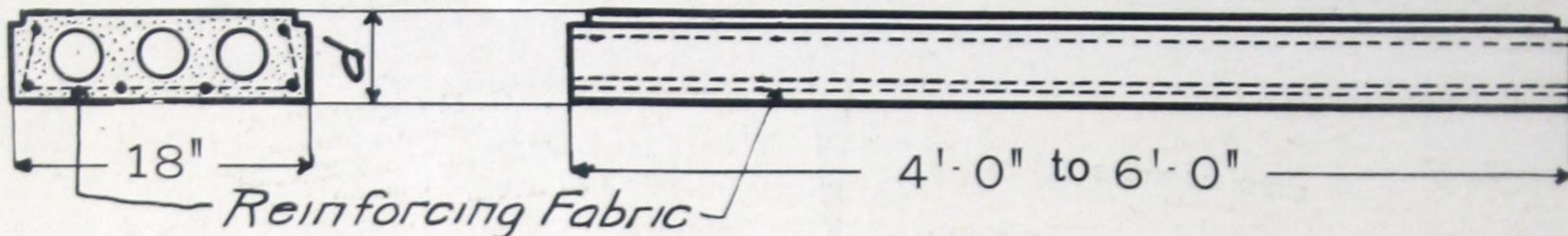
# Data Required for Designing Pyrobar Reinforced Gypsum Tile Roofs

## Long Span Channel Type Pyrobar Gypsum Roof Tile



|                           |       |       |       |       |       |       |        |
|---------------------------|-------|-------|-------|-------|-------|-------|--------|
| Span.....                 | 4'-0" | 5'-0" | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" |
| Depth "d" (see note)..... | 5"    | 5"    | 5"    | 6"    | 6"    | 7"    | 7"     |
| Wt., lbs. sq. ft.....     | 16½   | 16½   | 16½   | 18½   | 18½   | 20.0  | 20.0   |

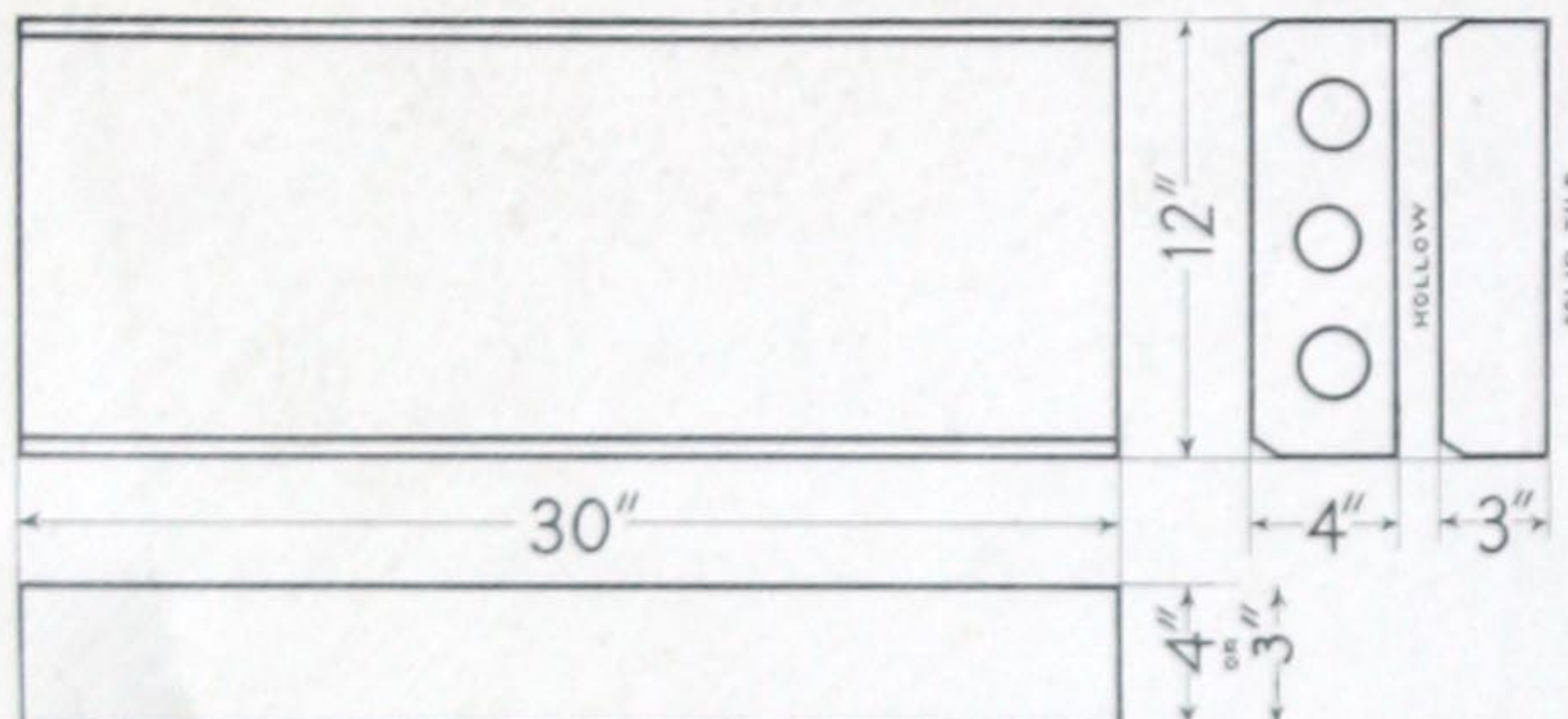
## Long Span Hollow Type Pyrobar Gypsum Roof Tile



|                           |       |       |       |
|---------------------------|-------|-------|-------|
| Span.....                 | 4'-0" | 5'-0" | 6'-0" |
| Depth "d" (see note)..... | 4"    | 5"    | 5"    |
| Wt., lbs. sq. ft.....     | 16    | 18½   | 18½   |

NOTE: In general all tile on one continuous roof deck to be of depth required for maximum span.

## Thirty-inch Type Pyrobar Gypsum Tile



|                 |         |         |
|-----------------|---------|---------|
| Depth           | 3" Sol. | 4" Hol. |
| Length          | 30"     | 30"     |
| Wt. per sq. ft. | 16      | 15      |

Note—Weight of 3" Extra Dense = 18 pounds.

## Specifications for Pyrobar Roof Tile

30-inch Type (3 in. Solid and 4 in. Hollow); Long Span Hollow Type; and Long Span Channel Type

All roofs, as shown on plans, unless otherwise noted, shall be constructed of Pyrobar Reinforced Roof Tile manufactured by the United States Gypsum Company. (Architects' Note: Specify whether 30" Type [Solid or Hollow], Long Span Channel Type or Long Span Hollow Type shall be used.) The tile shall be placed directly upon roof supports without mortar and with sides tight together. All "grouting joints" of the tile shall be filled with gypsum grout, composed of one part unfibred gypsum cement plaster and three parts of clean, sharp sand.

Curbs under Monitor or Sawtooth Sash, also the end

walls of Monitors or Sawteeth, shall be constructed of 3" solid Pyrobar Tile set in gypsum cement mortar, the joints being well bedded and struck.

Note: Where it is desired to nail roof coverings directly to the roof deck, the above specifications should read either "to be constructed of 3" x 12" x 30" Pyrobar Reinforced, Extra Dense Roof Tile" or "to be constructed of Pyrobar Long Span Reinforced Gypsum Roof Tile with Extra Thick Nailing Deck."

Cut nails or barbed slater's nails shall be used to fasten roof covering, and nails shall have at least 1½" penetration into the gypsum tile.

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